LAZAREV, B. I.

135-58-5-3/17

AUTHOR: Lazarev, B.I., Candidate of Technical Sciences

TITLE: Electrodes for Welding Austenitic Heat-Resistant Pipe Steel "1Kh18N12T" (Elektrody dlya svarki trubnoy austenitnoy zharoprochnoy stali " 1Kh18N12T")

PERIODICAL: Svarochnoye Proizvodstvo , 1958, Nr 5, pp 8 - 11 (USSR)

ABSTRACT: As is known, the tendency to form hot cracks in austenitic weld metal can be reduced by applying a quantity of ferrite phase immediately after welding. Heat resistant pipe steel "1Kh18N12T" is prone to hot cracks because of the high nickel content (higher than in steel "1Kh18N9T" containing 0.11% C, 0.52% Si, 1.24% Mn, 0.028 S, 0.014% P, 10.5% Ni, and 0.5% Ti). Experimental electrodes made of wire "1Kh18N9V" ("Gost - 2246-54- standard") with different content of chromium permitted the production of a quantity of ferrite phase in as-welded metal. The chemical composition and the percentage of ferrite phase in welds so obtained, is given in tables 1 and 2. Changes in structure and mechanical properties of welds with the parameters of heat treatment and the weld metal structure are illustrated by tables and curves. The

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Electrodes for Welding Austenitic Heat-Resistant Pipe Steel "Kh18N12T" 135-58-5-3/17

following electrode metal composition was finally accepted as the best: 0.09-0.11% C, 0.15-0.45% Si, 1.6-2.0% Mn, 0.65 - 0.95% Nb, 0.02% S, 0.035% P, 8.9-10.9% Ni, and a chromium content of 1.91-2.03 times higher than nickel content. This electrode metal was designated "TsT-15". Weld joints were subsequently made with these electrodes on "1Kh18N12T"-steel pipes and differently heat-treated. Austenization of joints at 1,050°C for 1 hour improved their plastic properties and impact resistance, produced a more uniform metal structure, and minimized residual stresses caused by welding. It is concluded that the "TsT-15" electrodes are suitable for welding in any position and can be recommended for heat-resistant austenitic steel working permanently at temperatures as high as 650°C. There are 9 figures and 6 tables.

ASSOCIATION: TsNIITMASh

AVAILABLE: Library of Congress

Card 2/2

GREKOV, P.N.; GRUZINOV, V.K.; LAZAREV, B.L.

Efficient distribution of pickup elements for the automatic control of the horizontal burden distribution. Stal' 20 no.11:977-980 N '60. (MIRA 13:10)

1. Ural'skiy politekhnicheskiy institut i NTMK.
(Blast furnaces) (Automatic control)

34398
S/695/61/000/000/005/005
B139/B104

1,2300

AUTHORS: Yarovinskiy, L. M., Lazarev, B. I., Gura, P. M.

TITLE: Welding of heat resistant steels

SOURCE: Gorshkov, A. S., V. Ye. Doroshchuk, and N. V. Kuznetsov, eds Povysheniye parametrov para i moshchnosti agregatov v teploenergetike; sbornik statey. Moscow, Gosenergoizdat, 1961, 135 - 148

TEXT: Steam line tubes from 12Х1МФ (12Kh1MF) steel for temperatures up to 540°C were welded with ЦЛ-20 (TsL-20) electrodes. The welding stock contains 1 % Cr, 0.5 % Mo and 0.25 % V. For 570°C, ЦЛ-27 (TsL-27) electrodes are suitable, in the welding stock of which Cr and Mo are higher by 20 % and which additionally contains Nb up to 0.2 %. The tubes must be heated to 300 - 350°C during welding. The welded joints of chrome steels tend towards losses in strength up to 25 % close to the seam. For butt-welded superheater tubes from alloyed perlitic steels with Nb and V, the impact strength was only 1-3 $kg\cdot m/cm^2$; when the tubes were preheated for 2 hr at 850°C, the impact strength reached up to 16 $kg\cdot m/cm^2$. Cast-

Card 1/3

ings for turbines and fittings intended for operating temperatures of 535 - 540°C are made from 20ХМФЛ (20KhMFL) steel, and for 565 - 570°C from 15Х1М1ФЛ (15Kh1M1FL) steel. Electrodes are the same as for the welding of tubes from the same steel type. The forged rotor discs, weighing 38 tons each, for the rotor of the ПВК-150 (PVK-150) 150 Mw turbines made from 34ХМ (34KhM) perlitic steel, were welded with ЦЛ-30 (TsL-30) electrodes. In order to obtain crack-free joints of heat-resistant austenitic steels, the electrodes must contain austenite and ferrite forming elements, safeguarding an optimum ferrite phase immediately after applying the weld. The question as to whether welded joints of thickwalled steam tubes from austenitic steels should be heat treated is still contested. Despite the high strength and plasticity of welding seams for ЭИ-257 (EI-257) and 1Х18Н12Т (1Kh18N12T) steels, cracks in the weld appeared during operation at the GRES, and research in this direction is carried on. Superheater tubes from austenitic steels can be butt-welded by fusion welding, but the welding technology depends on the chrome-to-nickel ratio. Difficulties arise during welding of austenitic steel castings, since the joints are liable to cracking. For castings with operating temperatures of 600 - 610°C, the TsNIITMASh developed, therefore, the 1Х20Н12Т

LAZAREV, B.I., kand.tekhn.nauk; RUSINOVA, I.N., inzh.

Electrodes for the welding of heat-resistant pipe steel. [Trudy] TSNIITMASH 104:54-68 '62. (MIRA 15:6)
(Steel, Heat-resistant—Welding) (Electrodes)

OVCHINNIKOV, Yu.N.; KITAYEV, B.I.; LAZAREV, B.L.; YAROSHENKO, Yu.G.

Stabilizing the heat conditions of a blast furnace by injecting the fuel through the tuyeres. Izv.vys.ucheb.zav.; chern.met. 8 no.6:27-32 '65. (MIRA 18:8)

1. Ural'skiy politekhnicheskiy institut.

OVCHINNIKOV, Yu.N.; KITAYEV, B.I.; SHVYDKIY, V.S.; YAROSHENKO, Yu.G.; LAZAREV, B.L.

Analyzing heat processes in a blast furance hearth with fuel injection through the tuyeres. Izv. vys. ucheb. zav.; chern. met. 8 no.10:42-48 '65.

(MIRA 18:9)

1. Ural'skiy politekhnicheskiy institut.

LAZAREV, B.L.; BOKOVIKOV, B.A.; BABUSHKIN, N.M.; TIMOFEYEV, V.N.;
CHERVOTKIN, V.V.; PRIVALOV, S.I.

Heat exchange and reduction in the stack of a furnace operating on 100% fluxed sinter. Stal' 25 no.6:487-492 Je '65. (MIRA 18:6)

1. Nizhne-Tagil'skiy metallurgicheskiy kombinat i Vsesoyuznyy nauchno-issledovatel'skiy institut metallurgicheskoy teplotekhniki.

FREYDENZON, Ye.Z.; PUSHKASH, I.I.; LAZAREV, B.L.; GLADYSHEV, V.I.

Characteristics of making vanadium cast iron from titanomagnetite ores from the Kachkanar deposit. Stal' 25 no.6: 492-497 Je '65. (MIRA 18:6)

1. Nizhne-Tagil'skiy metallurgicheskiy kombinat.

L 36862-66 EWP(k)/EWT(m)/T-2/EWP(w)/EWP(v)/EWP(t)/ETI IJP(c) EM/JD/HM/HW

ACC NR: AP6023438 SOURCE CODE: UR/0135/66/000/007/0017/0019

AUTHOR: Lazarev, B. I. (Candidate of technical sciences); Iodkovskiy, S. A. (Candidate of technical sciences); Rusinova, I. N. (Engineer); Shumskiy, V. G. (Engineer) 49

ORG: TsNIITMASh 43

B

TITLE: TsT-23 electrodes for welding heat-resistant Kh16N14V2BR-type steels

SOURCE: Svarochnoye proizvodstvo, no. 7, 1966, 17-19

TOPIC TAGS: WELD EVALUATION, heat resistant steel, austenitic steel, steel welding, arc welding, manual welding, welding electrode, electrode steel, steel melting, steel composition / TsT-23 WELDING ELECTRODE

ABSTRACT: Research conducted during 1960-1963 led to the development of TsT-23 welding electrode yielding fully austenitic weld metal and intended for welding EP17 heat-resistant tube steel. The weld metal is similar in composition to EP17 steel, but has a higher manganese content (4.5—6.0% compared to 2.0% in EP17) and contains no boron in order to reduce the susceptibility to hot cracking, characteristic of fully austenitic welds. Since, however, the weld susceptibility to hot cracking was found to vary significantly from one heat of electrode

Card 1/2 UDC: 621.791.042.4:669.14.018.44

LAZAREV, B. L.

USSR/ Electricity
Superconductivity
Detectors, Metal

Feb 1948

"Detector Properties of Superconductor" A. A. Galkin, B. L. Lazarev, 2 pp

"Dok Akad Nauk SSSR, Nova Ser" Vol LIX, No 4

Describes experiments designed to study newly discovered detection properties in superconductors, concluding that demodulation of modulated alternating current explained by nonlinear ratio of voltage to current in the transitional zone.

PA 43/43T11

LAZAREV, B.L.

18

Ways of Improving Blast-Furnace Operation Indices. E. A. Khil'kovich, G. V. Mantuzhov, B. L. Lazarev and S. V. Bazilevich. (Stal', 1956, (12), 1061–1067). (In Russian).
Blast-furnace practice at Novo-Tagil' is characterized by an
irreducible burden (ore/sinter mixture of variable quality
and iron content and with a relatively low-melting gangue.
In this article an account is given of changes in practice and
the experiments which preceded and followed them since
1950. In this period the coefficient of utilization of useful vol-
ume has improved from 0·855 to 0·734 and the coke rate has
fallen from 0·814 to 0·691. Experiments included determina-
tion of reduction rates of the ores and sinter at various tem-
peratures (optimal temperatures being found for each) both in
a laboratory apparatus and by allowing samples to descend
to various depths in the furnace. Extensive explorations were
also carried out in the furnaces, the distribution of pressure
drop for different top pressures, of temperature and of CO_2
content. The increased productivity of the furnaces is
attributed mainly to (1) the raising of the ore/coke ratio with a
blast-temperature increase from 595° to 842° C made possible
by an increase in the blast-moisture from 8 to 18 g/m³; (2)
the adoption of high top pressure (0·6–0·8 atm. gauge); (3)
better utilization of the thermal and chemical energy of the
gases by controlling gas flow through changing conditions.
Further measures envisaged are the raising of top-pressure
to 1·0–1·6 atm. and of sinter basicity to 1·3–1·4. Based on
the observation that blast humidities > 20 g/m³ lead to
higher coke rates it is proposed to use changes in humidity
rather than blast-temperature to control thermal conditions
in the hearth.—s. k.

6
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1-RG

Lazarev, B.L.

18 15 7

4E2c

Improving the Stability of Blast-Furnace Refractory Linings. F. A. Khil'kevich, S. V. Bazilevich and B. L. Lazarev. (Stal', 1956, (12), 1067–1072). [In Russian]. Experience and experiments at Novo-Tagil' with various types of lining and coolers in the hearth and stack are surveyed, most attention being devoted to the stack. For the hearth pad accurately ground and interlocking firebricks over carbon blocks is recommended. Great improvement in stack life was obtained by arranging stack coolers to form almost complete rings, the recommended final solution for the particular practice at the works (high-zinc, low-melting burden) being peripheral plate coolers with carbon brick for the lower part of the stack.—s. k.

1/1

LAZAREV, B.L.

Ways of improving blast-furnace operations. F. A. Khil'kevich, G. V. Mantukhov, B. L. Lazarev, and S. V. Bazilevich (Met. Plant, Novo-Tagil'sk). Stal' 10, 1001-7 (1950).—The burden used carrying 38-45% magnetite and rest sinter of varying compn. had poor reducibility, low melting point of the gang, and inferior gas permeability. Most reduction took place at 950-1100° in the area of slag formation. Several means for improving furnace efficiency are proposed, none of which underwent a conclusive production testing. I. D. Gat

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LAZAREV, B. L.

3

Improving life of blast-furnace lining. F. A. Khil'kevich, S. V. Bazilevich, and B. L. Lazarev (Met. Plant Novo-Tagil'sk). *Stal'* 16, 1067-72(1956).—Performance of lining observed during 16 campaigns of furnaces running on burden carrying 0.10-0.15% Zn, and 0.40% alkalies is given in detail together with the temp. distribution in the lining as a function of the number and placement of cooling boxes. Linings lasted on the av. 32 months, though in one half of the furnaces operations at the end were conducted with bare areas of the shaft shell. By closer spacing cooling boxes in the shaft a better life of fire brick can be obtained, but the problem is far from being solved. I. D. Gat

LAZAREV, B L

130 - 6 - 3/27

AUTHORS: Khil'kevich, F.A., Lazarev, B.L. and Bazilevich, S.V.

TITLE: Blast furnace operation with oxygenated blast. (Rabota domennykh pechey na dut'ye, obogashchennom kislorodom).

PERIODICAL: "Metallurg" (Metallurgist), 1957, No.6, pp.3-7 (USSR).

ABSTRACT: The use of oxygenated blast for producing steel-making pig iron and ferromanganese in blast furnaces 1386 and 1100 m^3 in useful volume and operating with medium top pressure, respectively, is described. The experiments were carried out at the Nizhne-Tagil'sk metallurgical combine in 1956-57 jointly with the Central Research Institute of Ferrous Metallurgy and were reported at the recent All-Union Blast-Furnace Conference. The pig iron (0.6% Si, 1% Mn, 0.04% S, 0.2% P) was melted from a mixture of fluxed and unfluxed sinters and magnetite ores. The reducibility and strength of the burden were low. A 90-day trial period with ordinary blast was followed by a total of 6 days with oxygenation to 22.19% O_2, 14 days at 23.3% O_2 and 8 at 24% O_2. Blast moisture was kept constant at 20 g/m^3, blast volume was reduced to keep the time rate of gas production constant and blast temperature was increased. Throat CO_2-content traverses show that good distribution was maintained, and the operating characteristics of the furnace (coke rate,

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130 - 6 - 3/27

Blast furnace operation with oxygenated blast. (Cont.)

productivity, CO/CO_2 ratio and calorific value of top gas, coke-burning rate) were better in the oxygenated-blast periods, but the practice is complicated by the deterioration in raw material quality which occurred in part of the 24% period; without this deterioration the productivity was 2063 tons per day compared with 1915 without oxygenation. Because of high oxygen costs at the works direct production costs of the iron were slightly higher with oxygen-enriched blast, but this was offset by improvement in various factors. The manganese ore from which ferromanganese was melted contained much fines and high production rates were difficult to achieve. Oxygenation to 24.3% O_2 for a month gave a productivity increase of 11.2% (from 399.7 to 447.0 tons/day). A relatively acid($(CaO + MgO)/SiO_2$ = 1.10 to 1.15) slag was used and blast temperatures were about 1000 C. In general the results are considered to show that it is advantageous to use oxygenated blast for operation on prepared charges.

ASSOCIATION: Nizhne-Tagil'sk Metallurgical Combine.
(Nizhne-Tagil'skiy Metallurgicheskiy Kombinat).

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Card 2/2

LAZAREV, B.L.

133-7-2/28

AUTHOR: Zakharov, A.F., Khil'kevich, F.A., Bazilevich, S.V. and Lazarev, B.L., Engineers.

TITLE: Smelting of Ferro-manganese in a Large Blast Furnace (Vyplavka ferromargantsa v bol'shoy domennoy pechi)

PERIODICAL: Stal', 1957, No.7, pp. 580 - 584 (USSR)

ABSTRACT: In 1956, the smelting of ferro-manganese was carried out in a large furnace (No.2 furnace Nizhne Tagil'skiy Works) (1 100 m^3) with high top pressure (0.5 atm.) and oxygen-enriched blast (up to 24.5%). The preparation of the furnace for the transfer from foundry iron to ferro-manganese production, characteristic of raw materials, operational practice and the results obtained are described. The profile of the furnace and the distribution of CO$_2$ in the top gas along the throat diameter are shown in Figs. 1 and 2, respectively. Material and heat balances are given in Tables 1 and 2, respectively. The comparison of main indices of heat balances of smelting ferro-manganese in three different works is given in Table 3. In addition, the distribution of temperatures and changes in the gas composition along the height of the furnace stack (Fig.3) and the composition of gas in the combustion zone (Fig.4) were studied. It is concluded that on smelting

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LAZAREV, B.L.

133-8-1/28

AUTHORS: Bardin, I.P. (Academician), Trekalo, S.K. (Cand.Tech.Sci.), Zakharov, A.F. (Eng.), Khil'kevich, F.A. (Eng.), and Lazarev, B.L. (Eng.)

TITLE: Smelting of basic pig iron with oxygen enriched blast. (Vyplavka peredel'nogo chuguna na dut'ye, obogashchennom kislorodom).

PERIODICAL: "Stal'" (Steel), No.8, 1957, pp.673-684 (USSR).

ABSTRACT: The influence of oxygen enriched blast on the operation of a large blast furnace with a normal profile operating on a prepared burden was investigated. The profile of the furnace is given in Fig.1. The preparation of burden materials is described, their chemical composition during the individual operating periods and physical properties of coke used are given in Tables 1 and 2 respectively. The mean composition of the burden, furnace lining (Fig.2), the composition of pig and top pressure during the individual operating periods was practically the same.

Card 1/5 The following operating periods are considered:

Smelting of basic pig iron with oxygen enriched blast.(Cont)

Period	Date	Oxygen content in blast,%
I	1.4-30.6	21.0
II	25.7-30.7	22.19
III	31.7-10.8	23.30
	20. -22.8	
IV	11.8-19.8	24. 0
V	1.9-28.9	21. 0

The operating results obtained during the individual periods are given in Table 3. Operating conditions during the last period V deteriorated due to the formation of a scaffold and deterioration in the state of charging equipment, therefore this period was excluded from further comparison. Daily variations of basic operating factors during the smelting of iron with normal and oxygen enriched blast are shown in Figs.3 and 4 respectively. The influence of oxygen enrichment on the amounts of blast and gas made, CO content in gas and gas made to blast ratio is shown in Fig.5. The comparison of the intensification of the smelting process when using oxygen enrichment under conditions of (a) constant amount of blast and (b) constant amount of gas made per unit time is shown in Fig.6. Material balances

Smelting of basic pig iron with oxygen enriched blast. (Cont.)

of the smelting process during the individual periods operating factors and heat balances for the same periods are given in Tables 4, 5 and 6 respectively. The distribution of CO_2 content in the top gas along the throat diameter during the individual operating periods is shown in Fig.7. Variations in the composition and temperature of gas at various furnace levels during the individual operating periods are shown in Figs.8 and 9. Methods used for the determination of the above data are not given. The comparison of cost of production per ton of pig with normal (A) and oxygen enriched (B) blast is given in Table 7. It is concluded that: 1) operation of the furnace with oxygen enriched blast was stable without increasing moisture content of blast. The temperature of the blast was increased by 35-45 C in comparison with the operation on normal blast; 2) oxygen enrichment permitted intensifying furnace driving within the limits of retaining the amount of gas produced per unit of time on the same level as in normal operation; 3) the distribution of the gas stream across the furnace during operation with enriched blast remained normal which was the main factor contributing to

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133-8-1/28

Smelting of basic pig iron with oxygen enriched blast. (Cont.)

the retention of a comparatively low coke rate achieved on normal blast; 4) blast enrichment causes a decrease in the size of zone of moderate temperatures (800-1100 C) in the furnace stack and the corresponding increase in zones of low and high temperatures (above 1100 C). Despite this, the concentration of CO_2 in gas increases along the furnace height at a higher rate than with ordinary blast, due to an increase in the reducing ability of the gas; 5) with a 23.3% oxygen enrichment the output of the furnace increased by 6.7% with unchanged coke rate (14 days operating period); 6) the cost of production of pig with oxygen enriched blast was 2 roubles 40 kop.per ton higher than with ordinary blast. This increase was caused by the high cost of technical oxygen on the HTMK (15 kop/m^3); 7) the results obtained fully justify an enlargement of the tonnage oxygen plant on the HTMK in order to supply blast furnaces with oxygen for blast enrichment. Oxygen plants should be built on works operating with a prepared burden. The construction of oxygen plants of 10 000 m^3 capacity is recommended.

Card 4/5

LAZAREV, B.L.

ZAKHAROV, A.F., inzhener; KHIL'KEVICH, F.A.; BAZILEVICH, S.V.; LAZAREV, B.L.

Smelting ferromanganese in large blast furnaces (summary in English). Stal' 17 no.7:580-584 Jl '57. (MLRA 10:8)

1. Nizhne-Tagil'skiy metallurgicheskiy kombinat.
(Ferromanganese)
(Blast furnaces)

LAZAREV B. I.

1-RB
4E2c

Making basic iron with oxygenated blast. I. P. Bardin, S. K. Trekalo, A. F. Zakharov, F. A. Khilkevich, and B. I. Lazarev (Met. Combine, Nizhn-Tagil). Stal' 17, 673-84 (1957).—Detailed information is given covering the operation of a 60,000-cu. ft. blast furnace in which 83% sinter is in the charge and 22, 23, and 24% O in the blast is used for consecutive 30-day periods. Operations entirely satisfactory from all standpoints were recorded and no unexpected results were noted.

J. D. Gat

SOV/130-59-2-2/17

AUTHORS: Bazilevich, S.V., Candidate of Technical Sciences and Lazarev, B.L., Engineer

TITLE: Production of Pellets from Charges Containing Pyrites Residues (Polucheniye okatyshey iz shikht s uchastiyem piritnykh ogarkov)

PERIODICAL: Metallurg, 1959, Nr 2, pp 4-7 (USSR)

ABSTRACT: Pyrites residues from Ural chemical works contain 16-25% silica and some copper and zinc and not more than 45-50% iron. Their direct use in blast-furnaces is therefore deleterious and experience at the Cherepovetskiy metallurgicheskiy zavod (Cherepovets Metallurgical Works) (Ref 1) has shown that their use in the sinter mix reduces sintering rates and gives an inferior product. The authors describe work at the Nizhne-Tagil'skiy metallurgicheskiy kombinat (Nizhne-Tagil'skiy Metallurgical Combine) on the production of flux-containing pellets from pyrites-residues containing mixes and the comparison of this method with sintering. In this work S.V.Makayev, chief engineer of the combine, co-operated and I.D.Paderin and Ye.A.Pakhomov participated.

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SOV/130-59-2-2/17

Production of Pellets from Charges Containing Pyrites Residues

Vysokogorskiy magnetite concentrate (59.3% Fe, 25.8% FeO, 0.19% S, 0.23% Cu, 0.08% Zn, 7.2% SiO_2, 3.2% CaO) 0 - 0.21 mm in size was pelletised with pyrites residues (52.3% Fe, 7.5% FeO, 1.45% S, 0.22% Cu, 0.27% Zn, 17.4% SiO_2, 2.8% CaO) and various sizes of limestone were pelletised. A 1000 mm diameter disc pelletiser rotating at 12 rpm was used, limestone being added to give a basicity of 1. Fig 1 shows pellet crushing strength, shatter strength and moisture (curves 1, 2 and 3 respectively) as a function of pyrites residues content (top abscissa scale). About 20% residues gave the strongest pellets and this content (residues + concentrate = 100%) was used in the main part of the investigation. The properties of unfired pellets with this residues to concentrates ratio made with limestone, lime or calcium hydroxide are shown in table 2. Calcium hydroxide gave the strongest pellets (dry crushing load 3.97 kg) and this strengthening effect was found to become more pronounced the higher the pyrites concentration. To study desulphurisation processes various charges were fired in a down-draught of air in a 150 mm

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SOV/130-59-2-2/17

Production of Pellets from Charges Containing Pyrites Residues

electrically heated pot. Fig 2 shows the degrees of desulphurisation as functions of heating time (minutes) for 1000, 1200 and 1250°C for fluxed residues (curve 1) unfluxed residues (1000 and 1200°C only) (curve II) and fluxed 20 to 80 residues to concentrates mixture (curve III). When pellets of the latter composition were fired it was found (Fig 3) that with increasing firing temperature (range 1180 to 1280°C) the residual sulphur content falls (from about 0.05 to about 0.02%) and the ratio of ferrous to total iron rises. The optimal temperature is given as 1210-1240 and duration as 20 min. The properties of the pellets were compared with those of sinter of the same material by allowing 100 g samples in a basket to descend 8 m down a blast-furnace and then withdrawing and subjecting to chemical analysis to determine degrees of reduction. The results of these tests showed that while sinter was only 9.1% reduced the value for pellets was 40.1%. Table 4 gives results of these and other comparative tests which showed that for about the same iron content the pellets had less FeO and sulphur than

Card 3/4

SOV/130-59-2-2/17

Production of Pellets from Charges Containing Pyrites Residues

the sinter and had good physical properties even after a 20 hour soaking in water. The authors conclude that it is preferable to smelt pyrites residues as a component of pellets than of sinter. There are 3 figures, 4 tables and 1 Soviet reference.

ASSOCIATION: Nizhne-Tagil'skiy Metallurgicheskiy Kombinat (Nizhniy Tagil'skiy Metallurgical Combine)

Card 4/4

BAZILEVICH, Sergey Vladimirovich; LAZAREV, Boris Leonidovich; STARIKOV, Modest Andreyevich; GOLOSKOV, Boris Viktorovich; KULIKOV, I.S., kand.tekhn.nauk., retsenzent; KHODAK, L.Z., red.; CHAPAYKINA, F.K., red.izd-va; MATLYUK, R.M., tekhn.red.

[Methods for experimental investigation of the blast-furnace process] Metody eksperimental'nogo issledovaniia domennogo protsessa. Sverdlovsk, Gos.nauchno-tekhn.izd-vo lit-ry po chernoi i tsvetnoi metallurgii. Sverdlovskoe otd-nie, 1960. 254 p. (MIRA 14:3)
(Blast furnaces) (Cast iron--Metallurgy)

LAZAREV, B.L.

PHASE I BOOK EXPLOITATION SOV/5274

Bazilevich, Sergey Vladimirovich, Boris Leonidovich Lazarev, Modest Andreyevich Starikov, and Boris Viktorovich Goloskov

Metody eksperimental'nogo issledovaniya domennogo protsessa (Methods for the Experimental Investigation of the Blast-Furnace Process) Sverdlovsk, Metallurgizdat, 1960. 256 p. Errata slip inserted. 3,200 copies printed.

Reviewer: I. S. Kulikov, Candidate of Technical Sciences; Ed.: L. Z. Khodak; Ed. of Publishing House: F. K. Chapaykina; Tech. Ed.: R. M. Matlyuk.

PURPOSE: This book is intended for technical personnel of industrial laboratories and for workers at scientific research institutes. It may also be of use to personnel of blast-furnace plants and to students at schools of higher and secondary education.

COVERAGE: Methods of experimental investigations of the blast-furnace smelting process are reviewed. Equipment and apparatus

Card 1/7

YAROSHENKO, Yu.G.; LAZAREV, B.L.; OVCHINNIKOV, Yu.N.

Device for measuring temperatures at shaft walls. Metallurg 5 no.11:11-13 N '60. (MIRA 13:10)

1. Ural'skiy politekhnicheskiy institut i Nizhe-Tagil'skiy metallurgicheskiy kombinat.
(Blast furnaces) (Thermocouples)

S/133/60/000/011/003/023
A054/A029

AUTHORS: Grekov, P.N., Gruzinov, V.K., Lazarev, B.L.

TITLE: Rational Arrangement of Transmitters for Automatic Control of the Horizontal Distribution of the Charge

PERIODICAL: Stal', 1960, No. 11, pp. 977-980

TEXT: The accuracy and the quick reaction of the automatic control system of the revolving distribution of the charge primarily depends on the sensitivity, the accuracy and the long useful life of nickel-cobalt and "alumel" (an alloy containing Ni, Al, Mn, Si and Co) thermocouples which are usually arranged on the upper level of the furnace brickwork under the armor plates. For several reasons, however, this arrangement does not insure sufficient sensitivity of the thermocouples, which are placed in thick-walled protective tubes, arranged 2-2.5 m below the level of the charge; the changes in the distribution of the materials in the charge are, therefore, indicated only with a considerable delay. The thermocouples, consequently, record only very considerable fluctuations in the distribution of materials and of the gas flow on the periphery of the furnace. Moreover, the useful life of these thermocouples does not exceed 5-6 months, mainly on account of the sooty carbon

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Rational Arrangement of Transmitters for Automatic Control of the Horizontal Distribution of the Charge

deposits in the protective tubes which compress the casing of the thermocouples, thus deforming them and damaging the insulation of the thermoelectrodes. Tests were carried out to eliminate these drawbacks by arranging a large number of thermocouples (6,8,12 and more) in the vault of the blast furnace above the armor plates. By analyzing the factors influencing the operation of thermocouples placed above the charge level, it was found that the operation of the revolving distributor greatly affects the change of readings of the conditions on the furnace periphery only if the materials fed into the furnace are distributed evenly. However, the diagrams representing the readings of these thermocouples are not suitable to locate gaps in the charge. In order to facilitate the location of gaps, the thermocouples arranged according to the new system are connected into batteries; moreover, a change-over switch was included in the system. The gap in the charge can very easily be located on the periphery of the furnace by one of the two positions of this change-over switch, in which the electromotive force of the thermocouples connected in the battery is zero. This new arrangement of the thermocouples greatly improves the sensitivity, accuracy and realiability of the control system of the revolving distri-
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Rational Arrangement of Transmitters for Automatic Control of the Horizontal Distribution of the Charge

butor. There are 8 figures and 4 Soviet references.
ASSOCIATION: Ural'skiy polytekhnicheskiy institut (Ural Polytechnical Institute) and NMTK

✓

Card 3/3

LAZAREV, B.L.

Investigating the reducibility of sinter and ores in the blast furnace and in laboratory conditions. Trudy Ural politekh. inst. no.105:49-66 '60. (MIRA 14:3)
(Iron-- Metallurgy) (Metallurgical laboratories)

LAZAREV, B.L.

Laboratory investigations of the reducibility of ores and sinter from the Tagil-Kushva region. Trudy Ural. politekh. inst. no.105:67-77 '60 (MIRA 14:3)
(Sintering)

LAZAREV, B.L.; KITAYEV, B.I.; YAROSHENKO, Yu.G.

Analysis of heat exchange processes in the blast furnace [with summary in English]. Stal' 21 no.3:200-206 Mr '61. (MIRA 14:6)

1. Nizhne-Tagil'skiy metallurgicheskiy kombinat i Ural'skiy politekhnicheskiy institut.
(Blast furnaces--Combustion)
(Heat--Transmission)

FROLOV, V.V.; LAZAREV, B.L.; GAVRILYUK, L.Ya.; FOFANOV, A.A.

Operation of blast furnaces with fluxed sinter made of Tagil-Kushva region ores. Stal' 21 no. 4:296-299 Ap '61. (MIRA 14:4)

1. Nizhne-Tagil'skiy metallurgicheskiy kombinat i Ural'skiy institut chernykh metallov.

(Ural Mountains—Iron ores) (Blast furnaces)

YEL'KIN, S.A.; MILYAYEV, M.N.; PUSHKASH, I.I.; LAZAREV, B.L.

Acceleration of blast furnace smelting at the Nizhniy Tagil Metallurgical Combine. Stal' 22 no.1:980-982 N '62.

(MIRA 15:11)

1. Ural'skiy nauchno-issledovatel'skiy institut chernykh metallov i Nizhne-Tagil'skiy metallurgicheskiy kombinat.

(Nizhniy Tagil—Blast furnaces)

BAZILEVICH, S.V.; LAZAREV, B.L.

Ways of improving the granular composition of sinter. Stal' 22 no.12:1061-1065 D '62. (MIRA 15:12)

1. Nizhne-Tagil'skiy metallurgicheskiy kombinat.
(Sintering) (Granular materials)

OSTROUKHOV, M.Ya.; PANCHENKO, S.I.; Prinimali uchastiye: FRISHBERG, V.D.;
PETROV, V.K.; RESHETKO, A.; VYATKIN, G.P.; BRATCHENKO, V.P.;
FOFANOV, A.A.; MILYAYEV, M.N.; PRIVALOV, V.Ye.; MUSTAFIN, F.A.;
PUSHKASH, I.I.; LAZAREV, B.L.

Experimental blast furnace smelting using coke from wet preparation coals. [Sbor. trud.] Nauch.-issl.inst.met. no.4:63-70 '61. (MIRA 15:11)

1. Vostochnyy uglekhimicheskiy institut (for Ostroukhov, Panchenko, Frishberg, Petrov, Reshetko). 2. Nauchno-issledovatel'skiy institut metallurgii (for Vyatkin, Bratchenko). 3. Nizhne-Tagil'skiy metallurgicheskiy kombinat (for Privalov, Mustafin, Pushkash, Lazarev).

(Blast furnaces—Testing)
(Coke—Testing)

YAROSHENKO, Yu.G.; LAZAREV, B.L.; MIKHAYLOV, I.N.; KOTEL'NIKOV, Yu.V.;
OVCHINNIKOV, Yu.N.

Continuous measurement of cast iron temperatures during its tapping. Stal' 22 no.4:300-302 Ap '62. (MIRA 15:5)

1. Nizhne-Tagil'skiy metallurgicheskiy kombinat i Ural'skiy politekhnicheskiy institut.
(Blast furnaces) (Pyrometry)

YAROSHENKO, Yu.G.; LAZAREV, B.L.; OVCHINNIKOV, Yu.N.

Completion of heat transfer processes in blast furnaces. Izv. vys. ucheb. zav.; chern. met. 6 no.3:185-188 '63. (MIRA 16:5)

1. Ural'skiy politekhnicheskiy institut.
(Blast furnaces) (Heat—Transmission)

KUPERMAN, P.I.; GRYAZNOV, N.S.; MOCHALOV, V.V.; FROLOV, V.V.; MUSTAFIN, F.A.; PUSHKASH, I.I.; SLAVGORODSKIY, M.V.; LAZAREV, B.L.; BORISOV, V.I.; Prinimali uchastiye: CHERKASOV, N.Kh.; ZABRODSKIY, M.P.; RYTCHENKO, A.I.; RUTKOVSKAYA, Ye.N.; SAITBURGANOVA, N.I.; SHTAGER, A.A.; SHISHLOVA, T.I.; BUDOL', Z.P.; MEN'SHIKOVA, R.I.; GORELOV, L.A.; AGARKOVA, M.M.; KOUROV, V.Ya.; KOGAN, L.A.; BEZDVERNYY, G.N.; POKROVSKIY, B.I.

Effect of the lengthening of the coking time on the coke quality and testing of coke in the blast furnace process. Koks i khim. no.9: 23-28 '63. (MIRA 16:9)

1. Vostochnyy uglekhimicheskiy institut (for Kuperman, Gryaznov, Mochalov, Kogan, Bezdvernyy, Pokrovskiy). 2. Ural'skiy institut chernykh metallov (for Frolov). 3. Nizhne-Tagil'skiy metallurgicheskiy kombinat (for Mustafin, Pushkash, Slavgorodskiy, Lazarev, Cherkasov, Zabrodskiy, Rytchenko, Rutkovskaya, Saitburganova, Shtager, Shishlova, Budol', Men'shikova). 4. Koksokhimstantsiya (for Borisov, Gorelov, Agarkova, Kourov).

(Coke—Testing)

PUSHKASH, I.I.; LAZAREV, B.L.; TATSIYENKO, I.A.

Forced operation of blast furnaces with larger diameter tuyeres. Metallurg 9 no.7:10-12 Jl '64. (MIRA 17:8)

1. Nizhne-Tagil'skiy metallurgicheskiy kombinat.

KITAYEV, B.I.; YAROSHENKO, Yu.G.; LAZAREV, B.L.; SUKHANOV, Ye.L.

Quantitative estimate of heat conditions at a blast furnace top. Izv. vys. ucheb. zav.; chern. met. 8 no.10:31-36 '65. (MIRA 18:9)

1. Ural'skiy politekhnicheskiy institut.

LAZAREV, B.M., inzh.; TAYTS, A.A., kand.tekhn.nauk; KISELEVA, T.I.,
red.izd-va; ATTOPOVICH, M.K., tekhn.red.

[Introducing simplified starting and protection systems for high voltage synchronous motors] Vnedrenie uproshchennykh skhem puska i zashchity vysokovol'tnykh sinkhronnykh dvigatelei. Moskva, Gos.nauchno-tekhn.izd-vo lit-ry po chernoi i tsvetnoi metallurgii, 1959. 131 p. (MIRA 12:7)

1. TSENTROENERGOCHERMET, trust, Moscow.
(Electric motors, Synchronous)

KOPP, Isidor Filippovich; LAZAREV, B.M., red.; ASTAKHOVA, I.V., tekhn. red.

[Practices of permanent committees on public health of city councils] Iz opyta raboty postoiannoi komissii po zdravookhraneniiu gorodskogo soveta. Moskva, Gos. izd-vo iurid. lit-ry, 1958. 21 p. (MIRA 11:9)

1. Predsedatel' postoyannoy komissii po zdravookhraneniyu Stalinskogo gorodskogo Soveta deputatov trudyashchikhsya (for Kopp).

(PUBLIC HEALTH)

LAZAREV, B.M.

ANANOV, Iosif Nikolayevich; LAZAREV, B.M., red.; ASTAKHOVA, I.V., tekhn.red.

[Development of organizational forms of the administration of industry in the U.S.S.R.] Razvitie organizatsionnykh form upravleniia gosudarstvennoi promyshlennost'iu v SSSR. Moskva, Gos. izd-vo iurid.lit-ry, 1958. 79 p. (MIRA 11:6)
(Industrial organization)

LAZAREV, Boris Mikhaylovich; BLINOVA, N.V., red.; BYKOVA, V.V., tekhn.red.

[Enforcing the observance of prices and regulations in Soviet commerce] Kontrol' za sobliudeniem tsen i pravil sovetskoi torgovli. Moskva, Gos.izd-vo iurid.lit-ry, 1959. 82 p. (MIRA 12:6)

(Retail trade) (Price regulation)

DOROKHOVA, Galina Aleksandrovna; LAZAREV, B.M., red.; KOSAREVA, Ye.N., tekhn.red.

[The Workers' and Peasants' Inspection in 1920-1923] Raboche-krest'ianskaia inspektsiia v 1920-1923 gg. Moskva, Gos.izd-vo iurid.lit-ry, 1959. 182 p. (MIRA 12:10)

(Russia--Politics and government)
(Russia--Economic policy)

PISKOTIN, Mikhail Ivanovich; LAZAREV, B.M., red.; SHCHEDRINA, N.L., tekhn. red.

[Budgetary rights of the local soviets of workers' deputies]
Biudzhetnye prava mestnykh Sovetov deputatov trudiashchikhsia.
Moskva, Gos. izd-vo iurid. lit-ry, 1961. 331 p. (MIRA 15:1)
(Local finance)

LAZAREV, D.

Intensify intradepartmental control in producers' cooperatives.
Prom.koop. no.3:19-22 Mr '55. (MLRA 8:11)
(Cooperative societies)

LAZAREV, D.F., inzhener; PROSTOSERDOV, A.P., redaktor izdatel'stva;
MEL'NICHENKO, F.M., tekhnicheskiy redaktor

[Safety manual for workers putting raw brick into kilns and drawing the fired brick from them] Pamiatka po tekhnike bezopasnosti dlia sadchikov syrtsa i vygruzchikov kirpicha iz obzhigatel'nykh pechei. Moskva, Gos. izd-vo lit-ry po stroit. i arkhitekture, 1956. 28 p. (MLRA 9:8)

1. Russia (1923- U.S.S.R.) Ministerstvo transportnogo stroitel'stva. Otdel rabochikh kadrov, truda i zarabotnoi platy.
(Brickmaking--Safety measures)

LAZAREV, D.F.; PROSTOSERDOV, A.P., redaktor izdatel'stva; BOROVNEV, N.K.,
tekhnicheskiy redaktor

[Safety manual for drillers] Pamiatka po tekhnike bezopasnosti
dlia buril'shchika. Moskva, Gos. izd-vo lit-ry po stroit. i
arkhit., 1957. 18 p. (MLRA 10:7)
(Boring--Safety measures)

LAZAREV, D.F.

VOLKOV, P.I., inzh.; LAZAREV, D.F., inzh.

Preventing injuries in building and installation works. Transp. stroi. 7 no.12:4-7 D '57. (MIRA 11:2)
(Building--Safety measures)
(Railroad engineering--Safety measures)

ALEKSANDROV, Aleksandr Petrovich; LAZAREV, Dmitriy Filippovich; OBUKHOV, Vladimir Vladimirovich; KOLTUNOVA, M.P., red.; BOBROVA, Ye.N., tekhn.red.

[Collection of important laws concerning labor protection and safety engineering in transportation construction] Sbornik vazhneishikh materialov po okhrane truda i tekhnike bezopasnosti na transportnom stroitel'stve. Moskva, Gos. transp. zhel-dor. izd-vo, 1958. 1233 p. (MIRA 12:2)

1. Russia (1923- U.S.S.R.) Laws, statutes, etc. (Railroads--Safety measures) (Railroad law)

LAZAREV, D.

Working day of a factory committee chairman. Sov.profsoiuzy 6 no.14:54-58 0 '58. (MIRA 11:12)

1. Predsedatel' komiteta profsoyuza Yaroslavskogo motornogo zavoda.

(Trade unions--Officers)

LAZAREV, D.

The main thing is the work organization. Sov. profsoiuzy 7 no.17:39-40 S '59. (MIRA 12:11)

1. Predsedatel' zavkoma profsoyuza Yaroslavskogo motornogo zavoda.
(Yaroslavl--Engines)

LAZAREV, D.F., inzh.

For continous improvement of the working conditions of builders. Transp.stroi. 9 no.7:9-12 Jl '59.
(MIRA 12:12)

(Building--Safety measures)

LAZUNOV, N.A., inzh.; LAZAREV, D.F., inzh.

Cranes must be operated without accidents. Transp.stroi. 10 no.5:35-37 My '60. (MIRA 13:7)
(Cranes, derricks, etc.--Safety appliances)

~~LAZAREV, D.E.~~; VOSMAN, Ya.P., inzh., retsenzent; TERESHIN, V.S., inzh., retsenzent; KARAMYSHEV, I.A., inzh., red.; USENKO, L.A., tekhn. red.

[Principles of safety engineering and fire prevention in construction for the transportation industry] Osnovy tekhniki bezopasnosti i protivopozharnoi tekhniki na transportnom stroitel'stve. Moskva, Transzheldorizdat, 1963. 283 p. (MIRA 16:8)

(Civil engineering--Safety measures)

LAZAREV, D.F., inzh.

Improve the working conditions of the transportation builders. Transp. stroi. 15 no.11:31 N '65.

(MIRA 18:11)

LAZAREV, D. N.

"Illumination of the Halls of the State Hermitage with Fluorescent Lamps," Iz. Ak. Nauk SSSR, Ser. Fiz., 13, No.2, 1949

LAZAREV, D. N.

Ultraviolet radiation and its utilisation. Leningrad, Gos. energ. izd-vo, 1950. 118 p.
(50-34597)

1. LAZAREV, D. N.: SOKOLOV, M. V.

2. USSR (600)

4. Electric Lighting - Moscow

7. Problems of illuminating engineering in the reconstruction of Moscow's outdoor lighting system. Izv.AN SSSR Otd.tekh.nauk, no. 11, 1952.

9. Monthly List of Russian Accessions, Library of Congress, April 1953, Uncl.

LAZAREV, D. N.

USSR/Technical Physics

Card 1/1

Authors : Lazarev, D. N., and Erastov, D. P.

Title : Infrared luminescence in reproduction technique

Periodical : Dokl. AN SSSR, 96, Ed. 2., 281 - 282, May 1954

Abstract : The laboratory for the conservation and restoration of old, faded, damaged, and discolored documents at the Acad. of Sc. USSR, tested a new method of reading extinct texts by photographing the documents with infrared luminescence. The photographed part of the document is illuminated with the light of a 300-watt, 110-v incandescent lamp which passed (the light) through a capacitor and container with copper sulfate solution which absorbs radiations with wave lengths greater than 0.68μ. Photo samples of such restoration work are included. Two USSR references since 1946. Graphs.

Institution : Academy of Sciences, Laboratory for Conservation and Restoration of Documents

Presented by : Academician A. N. Terenin, March 2, 1954

LAZAREV, D.N.

VOLOTSKOY, Nikolay Vasil'yevich; ZIL'BER, David Aleksandrovich; KNORRING, Gleb Mikhaylovich; LAZAREV, D.N., redaktor; ZAKHAROV, P.P., redaktor; ZABRODINA, A.A., tekhnicheskiy redaktor

[Fluorescent lighting] Liuminestsentnoe osveshchenie. Moskva, Gos. energ. izd-vo, 1955. 304 p. (MLRA 9:2)
(Electric lighting, Fluorescent)

LAZAREV, D.N

USSR/Optics - Physical Optics. K-5

Abs Jour : Referat Zhur - Fizika, No 3, 1957, 7759

Author : Lazarev, D.N.
Inst : State Optic Institute, USSR.
Title : Instrument for the Measurement of Ultraviolet Radiation in Effective (Reduced) Units.

Orig Pub : Svetotekhnika, 1956, No 3, 25-27

Abstract : Description of instruments serving for the measurement of the intensity of ultraviolet radiation in effective units -- bacts and R's with which one estimates the destructive influence of the radiation on bacteria and the beneficial action on humans (the body for which the measurement is made). The curve of excitation of zinc silicate is close to the curve of the bactericidal action, and the excited brightness of the light is proportional to the bactericidal irradiation. The radiation from this luminophor is recorded by a photocell, and several light filters are

Card 1/2

KARYAKIN, A.V.; LAZAREV, D.N.; BARINOVA, G.A.

Fluorescent analysis of the viability of agricultural plant seeds. Dokl.AN SSSR 106 no.4:739-742 F '56. (MIRA 9:6)

1.Predstavleno akademikom A.L.Kursanovym.
(Seeds)

LAZAREV, D.N., kandidat tekhnicheskikh nauk.

Near region (region A) of the ultraviolet spectrum. Svetotekhnika 3 no.2:12-16 F '57. (MLRA 10:3)

1. Gosudarstvennyy opticheskiy institut.
(Spectrum, Ultraviolet)

FRANK, G.M., prof., otv.red.; VARSHAVER, G.S., dotsent, zamestitel' otv. red. (Moskva); GALANIN, N.F., prof., red. (Leningrad); DANTSIG, N.M., prof., red. (Moskva); LAZAREV, D.N., kand.tekhn.nauk, red. (Leningrad); SOKOLOV, M.V., prof., red. (Moskva); SKOBELEV, V.M., kand.tekhn.nauk, red. (Moskva); LANDAU-TYLKINA, S.P., red.; KHANOVA, T.M., red.; LYUDKOVSKAYA, N.I., tekhn.red.

[Ultraviolet radiation; sources, measurement, hygienic and therapeutic use] Ul'trafioletovoe izluchenie; istochniki, izmerenie, gigienicheskoe i lechebno-profilakticheskoe primenenie. Moskva, Gos.izd-vo med.lit-ry, 1958. 298 p. (MIRA 13:3)

1. Chlen-korrespondent AMN SSSR (for Frank, Galanin).
(ULTRAVIOLET RAYS)

GERSHUN, Andrey Aleksandrovich; VOLKENSHTEYN, A.A.; GUREVICH, M.M.;
LAZAREV, D.N.; FEDOROVA, Ye.O.; ORLOVA, L.I., red.;
POL'SKAYA, P.G., tekhn. red.

[Selected papers on photometry and illuminating engineering]
Izbrannye trudy po fotometrii i svetotekhnike. Moskva, Gos.
izd-vo fiziko-matematicheskoi lit-ry, 1958. 548 p. (MIRA 11:9)
(Photometry (Lighting)

ЛАЗАРЕВ, Д.Н.

LAZAREV, D.N., kand. tekhn. nauk.

The first all-Russian congress on problems of lighting, St. Petersburg, 1908. Svetotekhnika 4 no.1:22-24 Ja '58. (MIRA 11:1)

1. Gosudarstvennyy opticheskiy institut.
(Lighting--History)

LAZAREV, D.N., kand. tekhn. nauk

Lighting of the Brussels World Fair of 1958. Svetotekhnika
5 no.6:1-6 Je '59. (MIRA 12:8)
(Brussels--Lighting, Architectural and decorative--Exhibitions)

GOLLAND, Meylekh Isayevich; VOLOTSKIY, N.V., kand. tekhn. nauk, retsenzent; LAZAREV, D.N., kand. tekhn. nauk, retsenzent; BERGMAN, P.Ya., red.; SOBOLEVA, Ye.M., tekhn. red.

[Equipment for luminescence analysis] Apparatura dlia liuminestsentnogo analiza. Moskva, Gos.energ.izd-vo, 1961. 127 p. (MIRA 15:1)

(Luminescence) (Chemistry, Analytical)

LAZAREV, D.N., kand.tekhn.nauk

Ultraviolet (erythemic) irradiation in industrial shops without windows or skylights. Svetotekhnika 8 no.6:14-20 Je '62. (MIRA 15:5)

1. Gosudarstvennyy opticheskiy institut.
(Ultraviolet rays--Physiological effect)
(Electric lighting--Hygienic aspects)

VOL'KENSHTEYN, A.A.; GORODINSKIY, G.M.; GUREVICH, M.M.; GUREVICH, N.N.;
GUSEV, N.M.; KOZLYANINOV, M.V.; LAZAREV, D.N.; LEVITIN, I.B.;
MESHKOV, V.V.; POPOV, O.I.; SAMSONOVA, V.G.

Andrei Aleksandrovich Gershun. Svetotekhnika 8 no.12:1-3 D '62.
(MIRA 16:1)
(Gershun, Andrei Aleksandrovich)

LAZAREV, D.N., kand. tekhn. nauk

Principles of integral measurement of ultraviolet radiation.
Svetekhnika 9 no.9:8-13 S '63. (MIRA 16:10)

1. Gosudarstvennyy opticheskiy institut.

LAZAREV, D. N.; LUKIN, N. I.; PETROVA, Ye. S.

"Biological photometer."

report presented at the Atmospheric Radiation Symp, Leningrad, 5-12 Aug 64.

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24.2600,
9.4177

AUTHORS: Lashkarev, V. Ye., Lazarev, D. P., Sheynkman, M. K.

TITLE: On the passage mechanism of through photocurrent in a metal-semiconductor contact

PERIODICAL: Referativnyy zhurnal, Fizika, no. 8, 1962, 29, abstract 8E219 (In collection: "Fotoelektr. i optich. yavleniya v poluprovodnikakh" Kiyev, AN USSR, 1959, 20 - 32)

TEXT: Investigations were made of the phenomena that take place on a metal-semiconductor contact at a uniform and probe illumination of monocrystalline CdS samples. The generation of large photocurrents, many times exceeding the dark currents, is explained by the idea of a gate - a thin (10^{-7} cm) double layer (the electrons on the metal, the holes on the semiconductor), formed upon the illumination of the crystal and reducing the inner work function in the metal → semiconductor direction. Observations of the potential distribution along the CdS crystal with Au (non ohmic) contacts have indicated the presence of potential jumps at the electrodes attaining 40 - 70 % of the total voltage drop on the sample. The ob-

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served potential drop at the cathode embraces not only the gate region, but also a portion of the semiconductor volume (the so-called photocurrent barrier layer). With an increase of illumination the barrier potential jumps increase on the cathode and decrease on the anode. When illuminating an ohmic In contact one observes either a reduction of the "antibarrier ability" thereof or even a transition to the "barrier ability", analogous to the increase of the barrier jump on a gold cathode. The probe characteristics of the samples, that is, the magnitudes of the stationary currents traversing the sample as a function of the position of the luminous probe between the electrodes, were investigated. A small photocurrent drop is observed when displacing the luminous probe from the cathode to the anode (length of the sample: 1 - 1.5 mm). The time of setting up of the stationary photocurrent on probe illumination of an In anode (cathode of gold) is 10 times longer than in the case of a Au anode (cathode of indium). The unusual inertness on the anode illumination when the cathode is a barrier electrode (Au) serves, in the authors' opinion, as a direct confirmation of the hypothesis on the necessity of accumulating holes to form a gate. Illuminating a cathode of indium as well as of gold reduces by entire orders of magnitude the photocurrent rise time in comparison with the illumination of the anodes. For that reason,

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when applying an a.c. voltage and a luminous probe, i.e. when the latter alternately illuminates the anode or the cathode, a rectifying effect arises on the photocurrent that can attain a few orders of magnitude and exceed many times the same effect observed under stationary conditions. The photocurrent decay after the light is switched off is by orders of magnitude faster than the setting up of the photocurrent upon illumination of the samples. Experiments intended to study the probe action with infra-red light at a uniform illumination of the samples have shown that the infra-red probe particularly efficiently reduces the stationary photocurrent when illuminating the cathode. This can also be connected with the effect of infra-red light on the positive space charge at the cathode.

O. Shustova

[Abstracter's note: Complete translation]

Card 3/3

DUBROV, N.F.; GOL'DSHTEYN, M.I.; GUTERMAN, S.G.; Prinimali uchastiye:
GORLACH, I.A.; LAZAREV, E.M.

Effect of managanese on the phase consitution of electrical
silicon steels. Fiz. met. i metalloved. 11 no.6:919-922 Je '61.
(MIRA 14:6)

1. Ural'skiy nauchno-issledovatel'skiy institut chernykh metallov.
(Steel—Metallography)
(Manganese)

KHOREV, V.N.; BARANOVA, N.A.; GORLACH, I.A.; KVASOV, Ye.I.; KRAMARENKO, I.S.; MIRONOV, L.V.; PRIVALOV, S.S.; LYASKO, M.V.; DUBROV, N.F.; MIRONOV, L.V.; KOKSHAROVA, I.K.; MIKHALEV, M.S.; LAZAREV, E.M.; KUZNETSOVA, I.R.; LAPKIN, N.I.; KRASIL'NIKOV, N.A.; GOL'DSHTEYN, M.I.; GUTERMAN, S.G.; ODINOKOV, Yu.I.; SKRYABIN, N.P.; KORSHCHIKOV, V.D.

Research by the Ural Ferrous Metal Research Institute. Stal' 22 no.7:621,623,638-639,670 Jl '62. (MIRA 15:7)
(Metallurgical research)

L 21524-66 EWT(m)/EPF(n)-2 IJP(c) JD/JW/JG

SOURCE CODE: UR/0080/66/039/002/0323/0327

ACC NR: AP6008268

38

B

AUTHOR: Prokoshkin, D. A.; Vasil'yeva, Ye. V.; Lazarev, E. M.

ORG: Institute of Metallurgy im. A. A. Baykov (Institut metallurgii)

TITLE: The kinetics and activation energy of oxidation of alloys of the Nb-V-Ti system

SOURCE: Zhurnal prikladnoy khimii, v. 39, no. 2, 1966, 323-327

TOPIC TAGS: ternary alloy, niobium alloy, vanadium containing alloy, titanium containing alloy, alloy oxidation, oxidation oxidation kinetics, oxidation resistant alloy

ABSTRACT: Ternary niobium-vanadium-titanium alloys containing 1, 3, 5, 8, 10, and 15 wt% V at a constant titanium content of 1, 5, and 10 wt% were melted in an arc furnace in an argon atmosphere, homogenized at 1400C for 25 hr in a vacuum of $5 \cdot 10^{-4}$ mm Hg, and oxidized in air at 900, 1000, 1100, and 1200C. Metallographic examination of the alloys in the cast and annealed conditions showed a homogeneous, single-phase structure of a solid solution of titanium and vanadium in niobium. In alloys with a low content of the alloying elements, the oxidation kinetics followed a parabolic rate in the initial stage, and approached a linear rate with prolonged exposure. At higher vanadium contents (10 and 15%), the oxidation kinetics followed a linear rate. Alloys containing 10 and 15% V oxidized more rapidly at 1000C than at 1100 or 1200C, which can be explained by partial sintering of the scale at higher

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temperatures. At all test temperatures the most oxidation-resistant were alloys containing 5 wt% V; an Nb-5%-V-10% Ti alloy was the best. At all test temperatures the oxidation rate of ternary Nb-V-Ti alloys gradually decreased with increasing vanadium content, reached a minimum at a vanadium content of 5%, and then increased again to a value higher than that for unalloyed niobium at a vanadium content of 10—15%. The temperature dependence of the oxidation rate of Nb-V-Ti alloys (k) was found to follow an exponential law expressed by the equation $k = A \exp\left(-\frac{B}{RT}\right)$, where A varied from $2.5 \cdot 10^5$ to $6.92 \cdot 10^2$ and B, from 13,800 to 27,500. Orig. art. has: 4 figures and 3 tables. [MS]

SUB CODE: 11/ SUBM DATE: 15Apr64/ ORIG REF: 003/ OTH REF: 005/ ATD PRESS: 4222

Card 2/2 dlm

~~L 08420-67 EWT(m)/EWP(t)/ETI IJP(c) JD/WW/JG/WB/GD~~

ACC NR: AT6034467 (A) SOURCE CODE: UR/0000/66/000/000/0285/0290

39
B+1

AUTHOR: Prokoshkin, D. A.; Vasil'yeva, Ye. V.; Lazarev, E. M.

ORG: none

18 27 27

TITLE: Investigation of oxidation of niobium alloyed with vanadium, titanium or zirconium 27

27

SOURCE: AN SSSR. Institut metallurgii. Svoystva i primeneniye zharoprochnykh splavov (Properties and application of heat-resistant alloys). Moscow, Izd-vo, Nauka, 1966, 285-290

TOPIC TAGS: niobium alloy, ~~niobium alloy~~ oxidation, vanadium containing alloy, titanium containing alloy, zirconium containing alloy

ABSTRACT: Specimens of three series of niobium-base alloys, containing 1—15% vanadium and 1—10% titanium or 1—20% zirconium, arc melted in an argon atmosphere, were subjected to oxidation tests in air at 900—1200C. It was found that the oxidation rate depends on the composition. The oxidation rate of the Nb-V-Ti alloys with 10% titanium depends primarily on the vanadium content. It gradually decreases with increasing vanadium content and at 1200C reaches a minimum of 6.3 mg/cm^2·hr at 5% of vanadium; then it increases and at 10% vanadium is 20.9 mg/cm^2·hr, i.e., even higher than that of unalloyed niobium.

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ACC NR: AT6034467

The alloy containing 5% V and 10% Ti had the highest oxidation resistance. It was established that 5% vanadium reduces the oxidation rate by 2—3 times, and 10% of titanium reduces it by 3—6 times. Only zirconium, of the three contents tested, was found to increase the oxidation rate. Orig. art. has: 3 figures.

SUB CODE: 11/ SUBM DATE: 10Jun66/ ORIG REF: 005/ OTH REF: 006/
ATD PRESS: 5103

Card 2/2 ls

ACC NR: AP7002434 SOURCE CODE: UR/0219/66/000/012/0031/0033

AUTHOR: Lazarev, E. M.; Vasil'yeva, Ye. V.

ORG: Institute of Metallurgy, AN SSSR (Institut metallurgii AN SSSR)

TITLE: Structure and mechanical properties of the alloys of the Nb-V-Ti system

SOURCE: Metallovedeniye i termicheskaya obrabotka metallov, no. 12, 1966, 31-33 and insert facing page 48

TOPIC TAGS: niobium base alloy, vanadium containing alloy, titanium containing alloy, hardness, tensile strength, ductility, alloy system

ABSTRACT:

Niobium-base alloys containing 1—15% vanadium and 1—10% titanium were melted from 99.78%-pure niobium, iodide vanadium, and iodide titanium. The as-cast alloys had a dendritic microstructure which became more pronounced with increasing vanadium content. Alloys annealed in vacuum at 1400C for 25 hr had equiaxial grains. Increased titanium and vanadium content increased the hardness. The effect of vanadium is more pronounced. An increase in

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ACC NR: AP7002434

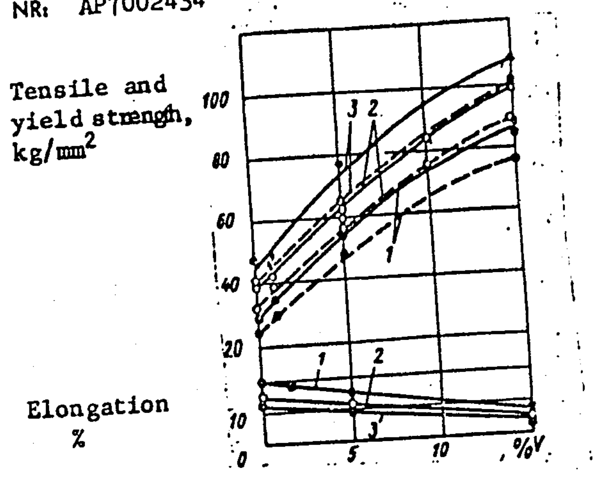

Fig. 1. Composition dependence of mechanical properties of Nb-V-Ti alloys containing 1 (1), 5 (2) and 10% (3) Ti; Tensile strength-solid lines; yield strength-broken lines

vanadium content from 0 to 15% increased the tensile strength from 47.5 to 107.5 kg/mm² in alloys containing 10% titanium and from 34.3 to 83.6 kg/mm² in alloys containing 1% titanium (see Fig. 1). The yield strength also increased with increased vanadium and titanium content. The ductility generally dropped with increasing titanium or vanadium content, titanium being more effective than vanadium. Orig. art. has: 3 figures.

SUB CODE: 11/ SUBM DATE: none/ ORIG REF: 003/ OTH REF: 001/ ATD PRESS: 5113

Card 2/2

LAZAREV, G., ALEKSANDROV, B. N. and VERKIN, B. I.

"Deriving Pure Metals by the Zone Crystallization Method. Part I", p. 93

"Deriving Pure Metals by the Zone Crystallization Method. Part II", p. 100,
Fizika Metallov i Metallovedeniye, 2, No. 1, 1956.

LAZAREV, G.A.

Volunteer office of economic analysis. Neftianik 8 no.6:4-5 Je '63. (MIRA 16:11)

1. Predsedatel' Obshchestvennogo byuro ekonomicheskogo analiza, nachal'nik tekhnicheskogo otdela Neftepromyslovogo upravleniya Al'met'yevneft'.

LAZAREV, G.A., inzhener.

Application of asbestos cement for joints of cast iron water pipes.
Elek.sta. 25 no.10:48 O '54. (MLRA 7:11)
(Asbestos cement) (Water pipes)

LAZAREV, G.A., inzhener.

Asbestos-cement roofing material. Elek.sta. 25 no.11:50-52 N '54. (MLRA 7:11)
(Roofing) (Asbestos cement)

Lazarev, G, A.

AID P - 2075

Subject : USSR/Electricity

Card 1/1 Pub. 26 - 17/29

Author : Lazarev, G. A., Eng.

[redacted]

Title : Brick laying in winter with potash admixture

Periodical: Elek. sta., 4, 47, Ap 1955

Abstract : The article describes 14, 28 and 35-day tests at temperatures reaching - 30°C made with cement enriched with potash admixture for weathering and frost-resistance, and gives detailed instructions on the make of cement and the ratio of potash to be used.

Institution: None

Submitted : No date

LAZAREV, G.A

AID P - 3775

Subject : USSR/Electricity

Card 1/1 Pub. 26 - 17/29

Author : Lazarev, G. A., Eng.

Title : New type of ceiling for low buildings

Periodical : Elek. sta., 10, 50, O 1955

Abstract : The author suggests the use of prefabricated coverings made of gypsum slag racks to be used between stories of low buildings and for ceilings as a way to economize timber. Two drawings.

Institution : None

Submitted : No date

LAZAREV, G. A.

AID P - 2534

Subject : USSR/Electricity

Card 1/1 Pub. 26 - 18/32

Author : Lazarev, G. A., Eng.

Title : Use of tar mastic as roofing material

Periodical : Elek sta, 6, 44, Je 1955

Abstract : The use of tar mastic to replace tar paper for roofing is recommended. Research made by the Central Scientific Research Institute of Industrial Construction reportedly proved the high quality and durability of this product. The use of tar mastic is also recommended in the construction of powerhouses.

Institution : None

Submitted : No date

LAZAREV, G.A., inzhener

New type of flooring for buildings of two or three stories. Elek. sta.26 no.10:50 O '55. (MLRA 8:12)
(Floors) (Concrete slabs)